



NON-CANONICAL AMINO ACID MIX

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Date of issue: 13/08/2018

Revision date:

Version: 1.0

MSK-NCAA-1

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Mixtures
Product name : NON-CANONICAL AMINO ACID MIX
Product code : MSK-NCAA-1

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.2.1. Relevant identified uses

Main use category : Professional use
Industrial/Professional use spec : For professional use only

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Cambridge Isotope Laboratories, Inc.
50 Frontage Road
Andover, MA 01810
USA

USA: 1-800-322-1174 Int: 1-978-749-8000
cilsales@isotope.com www.isotope.com

Emergency telephone number

Emergency numbers:

Chemtrec: 1-800-424-9300 (24 hours)
International: 1-703-741-5970 (24 hours)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Skin Irrit. 2 H315
Eye Irrit. 2 H319
STOT SE 3 H335

Full text of hazard classes and H-statements : see section 16

Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

Xi; R36/37/38

Full text of R-phrases: see section 16

GHS-US classification

Skin Irrit. 2 H315
Eye Irrit. 2 H319
STOT SE 3 H335

Full text of H statements : see section 16

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

Labeling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



GHS07

Signal word (CLP) : Warning

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Hazardous ingredients	: L-AZIDOHOMOALANINE:HCL (1,2,3,4-13C4, 99%; 2,4-15N2, 98%); L-DOPA (1-13C, RING-13C6, 99%)
Hazard statements (CLP)	: H315 - Causes skin irritation H319 - Causes serious eye irritation H335 - May cause respiratory irritation
Precautionary statements (CLP)	: P261 - Avoid breathing dust/fume/gas/mist/vapors/spray. P264 - Wash hands, forearms and face thoroughly after handling. P271 - Use only outdoors or in a well-ventilated area. P280 - Wear protective gloves/protective clothing/eye protection/face protection. P302+P352 - IF ON SKIN: Wash with plenty of soap and water. P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P312 - Call a doctor, a POISON CENTER if you feel unwell.

GHS-US labeling

Hazard pictograms (GHS-US)



GHS07

Signal word (GHS-US)

: Warning

Hazard statements (GHS-US)

: H315 - Causes skin irritation
H319 - Causes serious eye irritation
H335 - May cause respiratory irritation

Precautionary statements (GHS-US)

: P261 - Avoid breathing dust/fume/gas/mist/vapors/spray.
P264 - Wash hands, forearms and face thoroughly after handling.
P271 - Use only outdoors or in a well-ventilated area.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352 - If on skin: Wash with plenty of water
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P312 - Call a doctor if you feel unwell
P321 - Specific treatment (see Hazardous component(s) for labeling on this label)
P332+P313 - If skin irritation occurs: Get medical advice/attention.
P337+P313 - If eye irritation persists: Get medical advice/attention.
P362+P364 - Take off contaminated clothing and wash it before reuse.
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
P405 - Store locked up.
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation

2.3. Other hazards

No additional information available

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to Directive 67/548/EEC
L-HOMOARGININE:HCL (U-13C7, 98%+; 15N4, 98%+)	(CAS-No.) 1483-01-8 (unlabeled) (EC-No.) 216-045-6	19.59	Not classified
L-DOPA (1-13C, RING-13C6, 99%)	(CAS-No.) 59-92-7 (Unlabeled) (EC-No.) 200-445-2 (Unlabeled) (EC Index-No.)	16.98	Xn; R22 Xi; R36/37/38
L-AZIDOHOMOALANINE:HCL (1,2,3,4-13C4, 99%; 2,4-15N2, 98%)	(CAS-No.) 942518-29-8 (Unlabeled)	15.51	Xi; R36/37/38
L-CITRULLINE (1,2,3,4,5-13C5, 98%)	(CAS-No.) 372-75-8 (Unlabeled) (EC-No.) 206-759-6 (Unlabeled)	14.98	Not classified
L-ORNITHINE:HCL (13C5, 98%)	(CAS-No.) 3184-13-2 (Unlabeled) (EC-No.) 221-678-6 (Unlabeled)	14.43	Xi; R36
SARCOSINE:HCL (N-METHYLGLYCINE:HCL) (13C3, 99%; 15N, 98%)	(CAS-No.) 637-96-7 (Unlabeled) (EC-No.) 211-310-2 (Unlabeled)	10.77	Not classified
BETA-ALANINE (U-13C3, 98%+; 15N, 96-99%)	(CAS-No.) 285978-07-6 (EC-No.) 203-536-5 (Unlabeled)	7.74	Not classified

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Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
L-HOMOARGININE:HCL (U-13C7, 98%+; 15N4, 98%+)	(CAS-No.) 1483-01-8 (unlabeled) (EC-No.) 216-045-6	19.59	Not classified
L-DOPA (1-13C, RING-13C6, 99%)	(CAS-No.) 59-92-7 (Unlabeled) (EC-No.) 200-445-2 (Unlabeled) (EC Index-No.)	16.98	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335
L-AZIDOHOMOALANINE:HCL (1,2,3,4-13C4, 99%; 2,4-15N2, 98%)	(CAS-No.) 942518-29-8 (Unlabeled)	15.51	Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335
L-CITRULLINE (1,2,3,4,5-13C5, 98%)	(CAS-No.) 372-75-8 (Unlabeled) (EC-No.) 206-759-6 (Unlabeled)	14.98	Not classified
L-ORNITHINE:HCL (13C5, 98%)	(CAS-No.) 3184-13-2 (Unlabeled) (EC-No.) 221-678-6 (Unlabeled)	14.43	Eye Irrit. 2, H319
SARCOSINE:HCL (N-METHYLGLYCINE:HCL) (13C3, 99%; 15N, 98%)	(CAS-No.) 637-96-7 (Unlabeled) (EC-No.) 211-310-2 (Unlabeled)	10.77	Not classified
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Name	Product identifier	%	GHS-US classification
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L-ORNITHINE:HCL (13C5, 98%)	(CAS-No.) 3184-13-2 (Unlabeled)	14.43	Eye Irrit. 2A, H319
SARCOSINE:HCL (N-METHYLGLYCINE:HCL) (13C3, 99%; 15N, 98%)	(CAS-No.) 637-96-7 (Unlabeled)	10.77	Not classified
BETA-ALANINE (U-13C3, 98%+; 15N, 96-99%)	(CAS-No.) 285978-07-6	7.74	Not classified

Full text of R- and H- phrases: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: If you feel unwell, seek medical advice (show the label where possible). Evacuate danger area.
First-aid measures after inhalation	: When symptoms occur: go into open air and ventilate suspected area. If not breathing, give artificial respiration. Get medical advice/attention.
First-aid measures after skin contact	: Wash with plenty of soap and water. Get immediate medical advice/attention.
First-aid measures after eye contact	: Rinse cautiously with water for several minutes.
First-aid measures after ingestion	: Never give anything by mouth to an unconscious person. Rinse mouth out with water. Get medical advice/attention.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects after inhalation	: May cause respiratory irritation.
Symptoms/effects after skin contact	: Causes skin irritation.
Symptoms/effects after eye contact	: Causes serious eye damage.
Symptoms/effects after ingestion	: May be harmful if swallowed.

4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Water spray, dry chemical powder, alcohol-resistant foam, carbon dioxide (CO2).

5.2. Special hazards arising from the substance or mixture

No additional information available

5.3. Advice for firefighters

Firefighting instructions	: Fight fire with normal precautions from a reasonable distance. Wear a self contained breathing apparatus. Do not enter fire area without proper protective equipment, including respiratory protection.
Protection during firefighting	: Do not enter fire area without proper protective equipment, including respiratory protection. Wear recommended personal protective equipment.

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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Avoid breathing vapors, mist, gas. Avoid dust formation.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Prevent entry to sewers and public waters. Do not allow to enter drains or water courses. Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment : Take up mechanically (sweeping, shoveling) and collect in suitable container for disposal.

Methods for cleaning up : This material and its container must be disposed of in a safe way, and as per local legislation.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Provide adequate ventilation to minimize dust and/or vapor concentrations.

Hygiene measures : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Store in a well-ventilated place. Keep container tightly closed.

Storage conditions : Store refrigerated (-5 C to 5 C). Protect from light.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Exposure controls

Appropriate engineering controls : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

Personal protective equipment : Gloves. Protective clothing. Protective goggles. Self-contained breathing apparatus.



Materials for protective clothing : Wear suitable protective clothing and gloves.

Hand protection : Wear suitable protective clothing and gloves.

Eye protection : Wear eye protection. Chemical goggles or face shield with safety glasses.

Skin and body protection : Wear suitable protective clothing, gloves and eye/face protection.

Respiratory protection : In case of inadequate ventilation wear respiratory protection. Approved supplied air respirator.

Environmental exposure controls : Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Solid

Appearance : Solid

Color : No data available.

Odor : No data available.

Odor threshold : No data available

pH : No data available

Relative evaporation rate (butyl acetate=1) : No data available

Melting point : No data available

Freezing point : No data available

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Boiling point	: No data available
Flash point	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapor pressure	: No data available
Relative vapor density at 20 °C	: No data available
Relative density	: No data available
Solubility	: No data available
Log Pow	: No data available
Log Kow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available.
Oxidizing properties	: No data available
Explosion limits	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

See storage and expiration date on CoA.

10.3. Possibility of hazardous reactions

No additional information available

10.4. Conditions to avoid

No additional information available

10.5. Incompatible materials

Strong oxidizing agents.

10.6. Hazardous decomposition products

Carbon oxides (CO, CO₂).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

L-ORNITHINE:HCL (13C5, 98%) (3184-13-2 (Unlabeled))	
LD50 oral rat	10000 mg/kg Remarks: Behavioral: Altered sleep time (including change in righting reflex). Behavioral: Ataxia. Lungs, Thorax, or Respiration: Dyspnea.
ATE CLP (oral)	10000.000 mg/kg body weight
L-DOPA (1-13C, RING-13C6, 99%) (59-92-7 (Unlabeled))	
LD50 oral rat	1780 mg/kg Remarks: Behavioral:Excitement. Behavioral:Ataxia. Behavioral:Aggression.
ATE CLP (oral)	1780.000 mg/kg body weight
BETA-ALANINE (U-13C3, 98%+; 15N, 96-99%) (285978-07-6)	
LD50 oral rat	> 5000 mg/kg - male and female

Skin corrosion/irritation	: Causes skin irritation.
Serious eye damage/irritation	: Causes serious eye irritation.
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
Specific target organ toxicity – single exposure	: May cause respiratory irritation.
Specific target organ toxicity – repeated exposure	: Not classified
Aspiration hazard	: Not classified

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Potential Adverse human health effects and symptoms	: This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.
Symptoms/effects after inhalation	: May cause respiratory irritation.
Symptoms/effects after skin contact	: Causes skin irritation.
Symptoms/effects after eye contact	: Causes serious eye damage.
Symptoms/effects after ingestion	: May be harmful if swallowed.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.

BETA-ALANINE (U-13C3, 98%+; 15N, 96-99%) (285978-07-6)	
LC50 fish 1	> 100 mg/l semi-static test LC50 - Oncorhynchus mykiss (rainbow trout) - 96 h (OECD Test Guideline 203)
EC50 Daphnia 1	> 100 mg/l static test EC50 - Daphnia magna (Water flea) - 48 h (OECD Test Guideline 202)
ErC50 (algae)	> 100 mg/l static test EC50 - Desmodesmus subspicatus (green algae) - 72 h (OECD Test Guideline 201)

12.2. Persistence and degradability

L-AZIDOHOMOALANINE:HCL (1,2,3,4-13C4, 99%; 2,4-15N2, 98%) (942518-29-8 (Unlabeled))	
Persistence and degradability	Not available.
L-HOMOARGININE:HCL (U-13C7, 98%+; 15N4, 98%+) (1483-01-8 (unlabeled))	
Persistence and degradability	Not available.
L-ORNITHINE:HCL (13C5, 98%) (3184-13-2 (Unlabeled))	
Persistence and degradability	Not available.
SARCOSINE:HCL (N-METHYLGLYCINE:HCL) (13C3, 99%; 15N, 98%) (637-96-7 (Unlabeled))	
Persistence and degradability	Not available.
BETA-ALANINE (U-13C3, 98%+; 15N, 96-99%) (285978-07-6)	
Persistence and degradability	Not available.

12.3. Bioaccumulative potential

L-AZIDOHOMOALANINE:HCL (1,2,3,4-13C4, 99%; 2,4-15N2, 98%) (942518-29-8 (Unlabeled))	
Bioaccumulative potential	Not available.
L-HOMOARGININE:HCL (U-13C7, 98%+; 15N4, 98%+) (1483-01-8 (unlabeled))	
Bioaccumulative potential	Not available.
L-ORNITHINE:HCL (13C5, 98%) (3184-13-2 (Unlabeled))	
Bioaccumulative potential	Not available.
SARCOSINE:HCL (N-METHYLGLYCINE:HCL) (13C3, 99%; 15N, 98%) (637-96-7 (Unlabeled))	
Bioaccumulative potential	Not available.
BETA-ALANINE (U-13C3, 98%+; 15N, 96-99%) (285978-07-6)	
Log Pow	-3.049
Bioaccumulative potential	Not available.

12.4. Mobility in soil

L-AZIDOHOMOALANINE:HCL (1,2,3,4-13C4, 99%; 2,4-15N2, 98%) (942518-29-8 (Unlabeled))	
Ecology - soil	Not available.
L-HOMOARGININE:HCL (U-13C7, 98%+; 15N4, 98%+) (1483-01-8 (unlabeled))	
Ecology - soil	Not available.
L-ORNITHINE:HCL (13C5, 98%) (3184-13-2 (Unlabeled))	
Ecology - soil	Not available.
SARCOSINE:HCL (N-METHYLGLYCINE:HCL) (13C3, 99%; 15N, 98%) (637-96-7 (Unlabeled))	
Ecology - soil	Not available.
BETA-ALANINE (U-13C3, 98%+; 15N, 96-99%) (285978-07-6)	
Ecology - soil	Not available.

12.5. Results of PBT and vPvB assessment

No additional information available

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12.6. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

- Regional legislation (waste) : Waste materials should be disposed of under conditions which meet Federal, State, and local environmental control regulations.
- Product/Packaging disposal recommendations : Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.
- Ecology - waste materials : Dispose of as unused product.

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

14.1. UN number

Not applicable

14.2. UN proper shipping name

Not applicable

14.3. Additional information

- Other information : No supplementary information available.
- Special transport precautions : Not dangerous.

Overland transport

No additional information available

Transport by sea

No additional information available

Air transport

No additional information available

14.4. Environmental hazards

- Other information : No supplementary information available.

14.5. Special precautions for user

- Special transport precautions : Not dangerous.

14.6. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

NON-CANONICAL AMINO ACID MIX

SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporting requirements of the United States SARA Section 302.
SARA Section 313 - Emission Reporting	Not subject to reporting requirements of the United States SARA Section 313.

L-AZIDOHOMOALANINE:HCL (1,2,3,4-13C4, 99%; 2,4-15N2, 98%) (942518-29-8 (Unlabeled))

SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporting requirements of the United States SARA Section 302.
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard
SARA Section 313 - Emission Reporting	Not subject to reporting requirements of the United States SARA Section 313.

L-ORNITHINE:HCL (13C5, 98%) (3184-13-2 (Unlabeled))

SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporting requirements of the United States SARA Section 302
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard
SARA Section 313 - Emission Reporting	Not subject to reporting requirements of the United States SARA Section 313

SARCOSINE:HCL (N-METHYLGLYCINE:HCL) (13C3, 99%; 15N, 98%) (637-96-7 (Unlabeled))

SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporting requirements of the United States SARA Section 302.
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SARCOSINE:HCL (N-METHYLGLYCINE:HCL) (13C3, 99%; 15N, 98%) (637-96-7 (Unlabeled))	
SARA Section 313 - Emission Reporting	Not subject to reporting requirements of the United States SARA Section 313.
L-DOPA (1-13C, RING-13C6, 99%) (59-92-7 (Unlabeled))	
SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporting requirements of the United States SARA Section 302.
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard
SARA Section 313 - Emission Reporting	Not subject to reporting requirements of the United States SARA Section 313.

15.2. International regulations

CANADA

NON-CANONICAL AMINO ACID MIX
Listed on the Canadian DSL (Domestic Substances List)

15.2.1. National regulations

No additional information available

15.3. US State regulations

NON-CANONICAL AMINO ACID MIX()				
U.S. - California - Proposition 65 - Carcinogens List	No			
U.S. - California - Proposition 65 - Developmental Toxicity	No			
U.S. - California - Proposition 65 - Reproductive Toxicity - Female	No			
U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No			
State or local regulations	U.S. - Pennsylvania - RTK (Right to Know) List U.S. - New Jersey - Right to Know Hazardous Substance List			
L-AZIDOHOMOALANINE:HCL (1,2,3,4-13C4, 99%; 2,4-15N2, 98%) (942518-29-8 (Unlabeled))				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)
No	No	No	No	
L-CITRULLINE (1,2,3,4,5-13C5, 98%) (372-75-8 (Unlabeled))				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)
No	No	No	No	
L-HOMOARGININE:HCL (U-13C7, 98%+; 15N4, 98%+) (1483-01-8 (unlabeled))				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)
No	No	No	No	
L-ORNITHINE:HCL (13C5, 98%) (3184-13-2 (Unlabeled))				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)
No	No	No	No	
SARCOSINE:HCL (N-METHYLGLYCINE:HCL) (13C3, 99%; 15N, 98%) (637-96-7 (Unlabeled))				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)

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SARCOSINE:HCL (N-METHYLGLYCINE:HCL) (13C3, 99%; 15N, 98%) (637-96-7 (Unlabeled))				
No	No	No	No	
L-DOPA (1-13C, RING-13C6, 99%) (59-92-7 (Unlabeled))				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)
No	Yes	Yes	Yes	
BETA-ALANINE (U-13C3, 98%+; 15N, 96-99%) (285978-07-6)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)
No	No	No	No	
L-AZIDOHOMOALANINE:HCL (1,2,3,4-13C4, 99%; 2,4-15N2, 98%) (942518-29-8 (Unlabeled))				
State or local regulations				
U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List				
L-CITRULLINE (1,2,3,4,5-13C5, 98%) (372-75-8 (Unlabeled))				
State or local regulations				
U.S. - Pennsylvania - RTK (Right to Know) List U.S. - New Jersey - Right to Know Hazardous Substance List				
L-HOMOARGININE:HCL (U-13C7, 98%+; 15N4, 98%+) (1483-01-8 (unlabeled))				
State or local regulations				
U.S. - Pennsylvania - RTK (Right to Know) List U.S. - New Jersey - Right to Know Hazardous Substance List				
L-ORNITHINE:HCL (13C5, 98%) (3184-13-2 (Unlabeled))				
State or local regulations				
U.S. - Pennsylvania - RTK (Right to Know) List U.S. - New Jersey - Right to Know Hazardous Substance List				
SARCOSINE:HCL (N-METHYLGLYCINE:HCL) (13C3, 99%; 15N, 98%) (637-96-7 (Unlabeled))				
State or local regulations				
U.S. - Pennsylvania - RTK (Right to Know) List U.S. - New Jersey - Right to Know Hazardous Substance List				
L-DOPA (1-13C, RING-13C6, 99%) (59-92-7 (Unlabeled))				
State or local regulations				
U.S. - Pennsylvania - RTK (Right to Know) List U.S. - New Jersey - Right to Know Hazardous Substance List				
BETA-ALANINE (U-13C3, 98%+; 15N, 96-99%) (285978-07-6)				
State or local regulations				
U.S. - Pennsylvania - RTK (Right to Know) List U.S. - New Jersey - Right to Know Hazardous Substance List This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.				

SECTION 16: Other information

Other information

: This product is not radioactive. The data given for this product are those of the corresponding unlabeled compound, unless specifically indicated otherwise. Health and safety data for labeled compounds are generally not available, but are assumed to be similar or identical to the corresponding unlabeled compound.

Full text of R-, H- and EUH-phrases:

Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Eye Irrit. 2	Serious eye damage/eye irritation Category 2
Skin Irrit. 2	Skin corrosion/irritation Category 2
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
H302	Harmful if swallowed

NON-CANONICAL AMINO ACID MIX

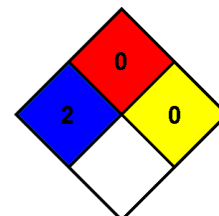
MSK-NCAA-1

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

H315	Causes skin irritation
H319	Causes serious eye irritation
H335	May cause respiratory irritation
R22	Harmful if swallowed
R36	Irritating to eyes
R36/37/38	Irritating to eyes, respiratory system and skin
Xi	Irritant
Xn	Harmful

- NFPA health hazard : 2 - Materials that, under emergency conditions, can cause temporary incapacitation or residual injury.
- NFPA fire hazard : 0 - Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand.
- NFPA reactivity : 0 - Material that in themselves are normally stable, even under fire conditions.



Hazard Rating

- Health : 2 Moderate Hazard - Temporary or minor injury may occur
- Flammability : 0 Minimal Hazard
- Physical : 0 Minimal Hazard

CIL Substance SDS

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product